

**REMARKS**

The examiner requested a copy of the 4/10/00 amendment. Due to printer problems at the time the original amendment was submitted, the document was replete with smudges which may have given the impression that several had been marked through. A "clean" copy of the amendment as filed is enclosed.

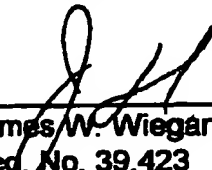
The examiner rejected claims 26-55 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The examiner maintains that it is unclear as to how the beat circuitry will detect deviations in the input frequency.

As noted at page 9, line 26 through page 11 line 5, when the frequency of the signal PLLin,  $F_i$ , (the "input frequency") exceeds the lock range of the PLL, the output state of the beat detector toggles at a frequency that is a function of 1) the instantaneous input frequency, 2) the instantaneous VCO frequency 3) a feedforward counter and 4) a feedback counter. The beat detector output, a function of the input frequency, is monitored by a beat evaluator. The time between transitions in the beat detector output is related to the frequency difference between an input signal and a reference signal (the difference between the PLL input signal and the VCO signal, in this case). That is, the time between transitions of the beat detector output provides a convenient measure of the difference between the instantaneous PLL input signal frequency and the instantaneous VCO signal frequency. Deviations in the time between transitions of the beat detector output will, therefore, provide an indication of the deviations in the input frequency. Such deviations may be employed, for example by the beat evaluator to enable the PLL to acquire lock, once the beat evaluator determines (as indicated by the time between beat detector transitions) that the instantaneous input frequency and the instantaneous VCO frequency are within an acceptable range of one another.

All the claims are therefore believed to be allowable over the prior art of record. Consideration of Claims 26- 55 is respectfully requested.

In light of the foregoing remarks, it is respectfully requested that all the claims be allowed such that the application may be passed to issue. If it is believed that a telephone conference will help expedite prosecution of the application, the examiner is invited to call the undersigned. The Commissioner is hereby authorized to charge any fees due for the filing of this paper, or to credit any refund, to applicants' Deposit Account No. 12-2325.

Respectfully submitted,



---

James W. Wiegand

Reg. No. 39,423

Law Office of James W. Wiegand  
204 Washington Street, Suite 4  
Marblehead, MA 01945  
(781) 639-5098